X-COMPOUND
Plastic compounding plants

Semiconductive Compounds

Application

Two semi conductive layers are used in combination with a crosslinked Polyethylene (XLPE) layer to ensure the insulation performance of medium voltage and high voltage power cables. The main challenge producing semi conductive compounds is the perfect dispersion of high structured carbon black into the polymer matrix. The better the structure of the carbon black is preserved the lower is the required content to achieve the desired conductivity. Continuous Kneaders are first choice for this demanding compounding task. They are widely used by leading cable compound producers as well as by first class cable manufacturers. For cross-linkable semi conductive materials, a peroxide absorption process will follow the compounding: line.

Benefits of Continuous Kneaders

- Excellent distribution of the carbon black for economic use of high-quality raw materials and therefore maximum compound performance.
- Gentle processing to maintain the high structured of the carbon black
- Proper wetting of high surface area of pigments due to high number of mixing cycles and balanced residence time.
- Lowest possible product temperature avoids polymer wdegradation and additive consumption

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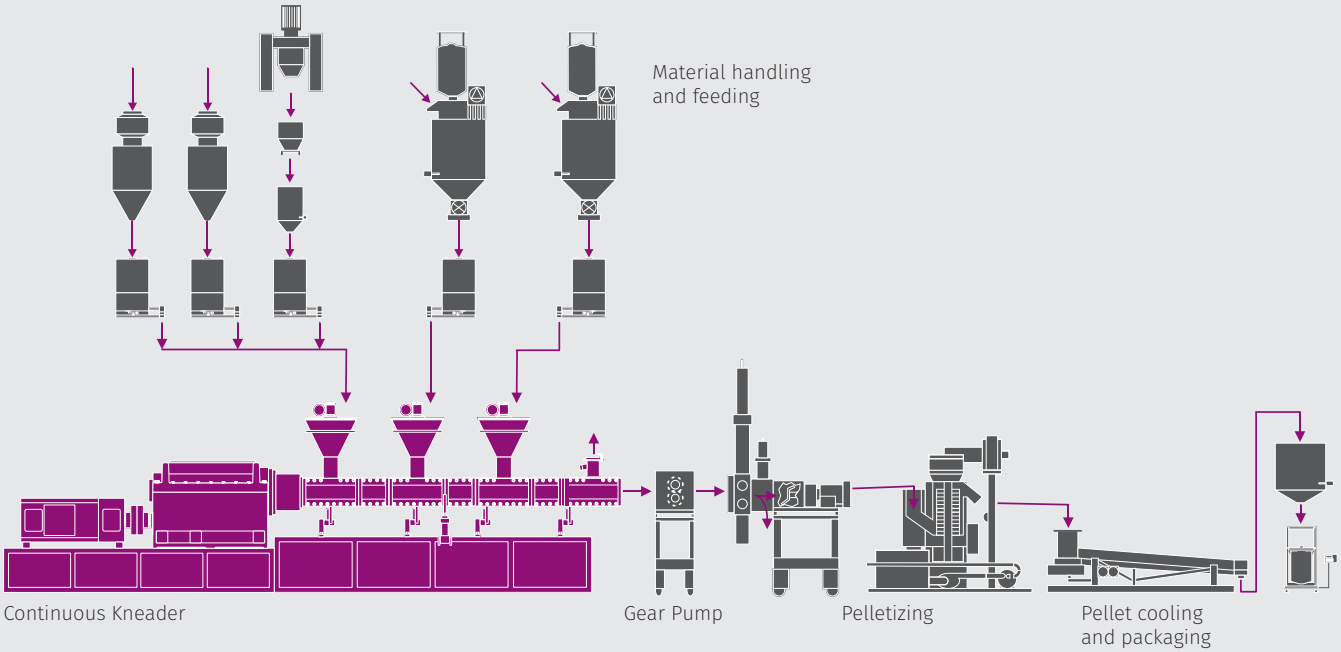
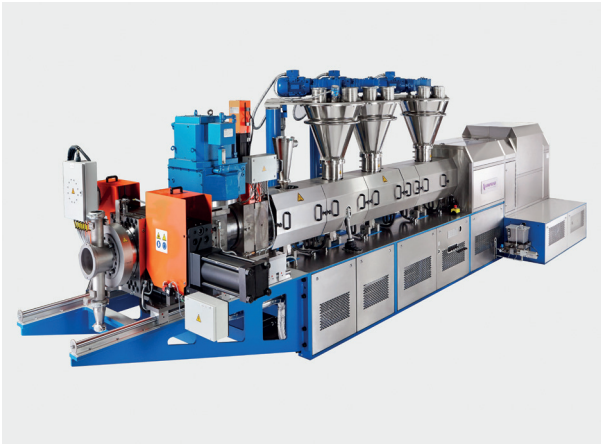
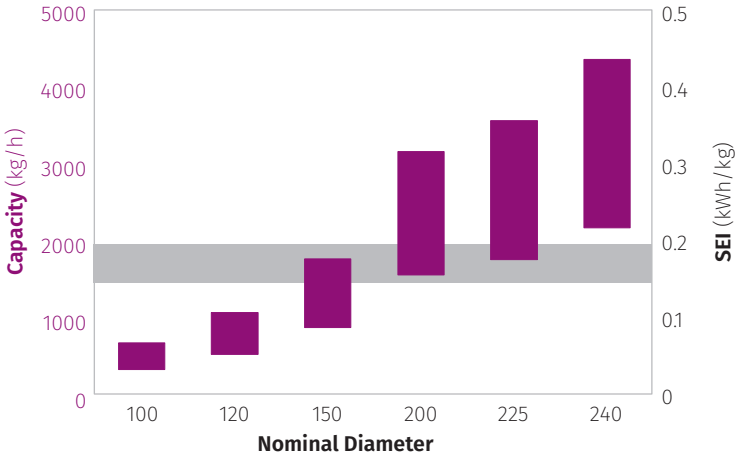
Flow Sheet



Kneader Data





Kneader	**Nominal Diameter**	**H** (mm)	**B** (mm)	**L** (mm)	**Throughput** (kg/h)	**SEI** (kWh/kg)
CK 100	100	2,000	750	5,850	350 – 700	0.15 – 0.20
CK 120	120	2,300	800	6,950	550 – 1,100	0.15 – 0.20
CK 150	150	2,700	900	8,750	900 – 1,750	0.15 – 0.20
CK 200	200	3,000	1,000	10,750	1,600 – 3,000	0.15 – 0.20
CK 225	225	3,300	1,100	12,100	1,800 – 3,500	0.15 – 0.20
CK 240	240	3,500	1,200	12,900	2,200 – 4,000	0.15 – 0.20

The data provided in this document are for information purposes only. Dimensions, throughputs and energy inputs are depending e.g. on raw materials, technical progress and may vary.